CONTAINS NO CBI

MCDONNELL DOUGLAS

McDonnell Douglas
Missile Systems Company

17 November 1989
E067-JWL-066

89 NOV 21 PM 1:20
OFFICE

Document Processing Center
Office of Toxic Substances, TS-790
U. S. Environmental Protection Agency
401 M Street, SW
Washington, DC
ATTN: CAIR Reporting Office

Manager CAIR Reporting Office;

On 09 October 1989 while reviewing new inputs to our chemical inventory, we discovered the use of Solithane S-113 in one of our McDonnell Douglas Missile Systems Company processes. We had reported usage of this material by our Electronic Systems Company and so quickly recognized it as a CAIR-reportable product. We began an immediate investigation into our past usage and soon discovered that we had used it during the reporting year 1988. As soon as we discovered that we did process Solithane in 1988, we began preparation of EPA Form 7710-52, which is enclosed herein.

We apologize for any inconvenience this may have caused your organization. If you have any questions, please contact the undersigned.

Sincerely,

J. Wayne Lanham

J. Wayne Lanham
Environmental Compliance Specialist
Department E067, Mail Code 100 3222
314/234-3518

scf

4555G

CONTAINS NO CBI

EPA

Form Approved
OMB No. 2010-0019
Approval Expires 12-31-89

EPA-OTS

0006360421

90-900000023

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Comprehensive Assessment Information Rule

REPORTING FORM

89 NOV 21 PM 1:20

OFFICE

When completed, send this form to:	For Agency Use Only:
Document Processing Center Office of Toxic Substances, TS-790 U.S. Environmental Protection Agency 401 M Street, SW Washington, DC 20460 Attention: CAIR Reporting Office	Date of Receipt: _____ Document Control Number: _____ Docket Number: _____

EPA Form 7710-52

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... [0][6] (mo.) [1][4] (day) [8][9] (year)

CBI

[ ] a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. ..... [0][0][0][5][8][4]-[8][4]-[9]

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule ..... TOLUENE DIISOCYANATE PLEASE SEE NOTE BELOW

(ii) Name of mixture as listed in the rule .... N/A

(iii) Trade name as listed in the rule ..... SOLITHANE 113

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule ..... N/A

CAS No. of chemical substance .....N/A. [ ][ ][ ][ ][ ][ ]-[ ][ ]-[ ]

Name of chemical substance ..... N/A

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI

Manufacturer 1

[ ] Importer 2

Processor ..... (3)

X/P manufacturer reporting for customer who is a processor 4

X/P processor reporting for customer who is a processor 5

1.01 (b) NOTE: THE FEDERAL REGISTER OF 22 DEC 88 page 51723 gives A CAS NUMBER FOR GENERIC TOLUENE DIISOCYANATE OF 1321-38-6. THE NAME ON THE MSDS IS THE GENERIC NAME "TOLUENE DIISOCYANATE" BUT THE CAS NUMBER ON THE MSDS IS 584-84-9. WE ARE USING THE GENERIC NAME THROUGHOUT THIS REPORT.

[ ] Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

[ ]

Yes ..... [X] Go to question 1.04

No ..... [ ] Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

[ ]

Yes 1

No ..... (2)

b. Check the appropriate box below:

[ ] You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) .... N/A

N/A

[ ] You have chosen to report for your customers N/A

[ ] You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

N/A

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

[ ]

Trade name ..... N/A

Is the trade name product a mixture? Circle the appropriate response.

Yes ..... N/A 1

No ..... N/A 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

[ ]

"I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

P. Joe Jansen	P. Joe Jansen	11/17/89
NAME	SIGNATURE	DATE SIGNED

Director OSHEC	(314) 232 - 8948
TITLE	TELEPHONE NO.

[ ] Mark (X) this box if you attach a continuation sheet.

1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

CBI

[__]

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

N/A	N/A	N/A
NAME	SIGNATURE	DATE SIGNED
N/A	(____) N/A - N/A	N/A
TITLE	TELEPHONE NO.	DATE OF PREVIOUS SUBMISSION

1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI

[__]

"My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

N/A	N/A	N/A
NAME	SIGNATURE	DATE SIGNED
N/A	(____) N/A - N/A	
TITLE	TELEPHONE NO.	

[__] Mark (X) this box if you attach a continuation sheet.

PART B CORPORATE DATA

1.09 Facility Identification

CBI Name [M][C][D][O][N][N][E][L][C][ ][D][O][U][G][L][A][S][ ][M][I][S][S][I][L][E][ ]
[ ] Address [P][O][ ][B][O][X][ ][5][1][6][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
Street

[S][T][ ][L][O][U][I][S][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
City

[M][O] [6][3][1][6][6]--[ ][ ][ ][ ]
State Zip

Dun & Bradstreet Number .....[1][8]-[7][6][7]-[1][5][3][2]

EPA ID Number .....M.O.D.[0][7][5][8][8][8][4][8][7]

Employer ID Number .....4..[3][0][4][0][0][6][7][4]

Primary Standard Industrial Classification (SIC) Code .....[3][7][6][1]

Other SIC Code .....[3][7][6][4]

Other SIC Code .....[3][7][6][9]

1.10 Company Headquarters Identification

CBI Name [M][C][D][O][N][N][E][L][C][ ][D][O][U][G][L][A][S][ ][C][O][R][P][O][R][A][T][I][O][N]
[ ] Address [P][O][ ][B][O][X][ ][5][1][6][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
Street

[S][T][ ][L][O][U][I][S][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
City

[M][O] [6][3][1][6][6]--[ ][ ][ ][ ]
State Zip

Dun & Bradstreet Number .....[0][0]-[6][2][6]-[5][9][4][6]

Employer ID Number .....4..[3][0][4][0][0][6][7][4]

[ ] Mark (X) this box if you attach a continuation sheet.

1.11 Parent Company Identification

CBI Name [M][C][D][O][N][N][E][L][L][ ][D][O][U][G][L][A][S][ ][C][O][R][P][O][R][A][T][I][O][N]

[ ] Address [P][O][ ][B][O][X][ ][5][1][6][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
Street

[S][T][ ][L][O][U][I][S][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
City

[M][O] [6][3][1][6][6]--[ ][ ][ ][ ]
State Zip

Dun & Bradstreet Number .....[0][0]-[6][2][6]-[5][9][4][6]

1.12 Technical Contact MCDONNELL DOUGLAS MISSILE SYSTEMS COMPANY

CBI Name [J][ ][W][A][Y][N][E][ ][L][A][N][H][A][M][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ] Title [S][R][ ][P][R][I][N][C][I][P][A][L][ ][S][P][E][C][I][A][L][I][S][T][ ][ ][ ]

Address [P][O][ ][B][O][X][ ][5][1][6][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
MAIL CODE 1003222 Street

[S][T][ ][L][O][U][I][S][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
City

[M][O] [6][3][1][6][6]--[ ][ ][ ][ ]
State Zip

Telephone Number .....[3][1][4]-[2][3][4]-[3][5][1][8]

1.13 This reporting year is from ..... [0][1] [8][8] to [1][2] [8][8]
Mo. Year Mo. Year

[ ] Mark (X) this box if you attach a continuation sheet.

1.14 Facility Acquired -- If you purchased this facility during the reporting year, provide the following information about the seller:

N/A

CBI Name of Seller [__]

[__] Mailing Address [__]
Street

[__]
City

[__] State [__]--[__] Zip

Employer ID Number ....[__]

Date of Sale ....[__] Mo. [__] Day [__] Year

Contact Person [__]

Telephone Number ....[__]-[__]-[__]

1.15 Facility Sold -- If you sold this facility during the reporting year, provide the following information about the buyer:

N/A

CBI Name of Buyer [__]

[__] Mailing Address [__]
Street

[__]
City

[__] State [__]--[__] Zip

Employer ID Number ....[__]

Date of Purchase ....[__] Mo. [__] Day [__] Year

Contact Person [__]

Telephone Number ....[__]-[__]-[__]

[__] Mark (X) this box if you attach a continuation sheet.

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

[ ]

Classification	Quantity (kg/yr)
Manufactured	0
Imported	0
Processed (include quantity repackaged)	0.7 Kg
Of that quantity manufactured or imported, report that quantity:	
In storage at the beginning of the reporting year	N/A
For on-site use or processing	N/A
For direct commercial distribution (including export)	N/A
In storage at the end of the reporting year	N/A
Of that quantity processed, report that quantity:	
In storage at the beginning of the reporting year	20.17 Kg
Processed as a reactant (chemical producer)	0
Processed as a formulation component (mixture producer)	0
Processed as an article component (article producer)	0.7 Kg
Repackaged (including export)	0
In storage at the end of the reporting year	4.03 Kg

[ ] Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

[ ]

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
TOLUENE DIISOCYANATE	MORTON THIOKOL INC	6-7 %
OTHER COMPONENTS UNKNOWN	MORTON THIOKOL INC	UK 93-94%
	Total	100%

[ ] Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

[ ] Year ending ..... [1][2] Mo. [8][7] Year

Quantity manufactured ..... N/A kg

Quantity imported ..... N/A kg

Quantity processed ..... 0.3 kg

Year ending ..... [1][2] Mo. [8][6] Year

Quantity manufactured ..... N/A kg

Quantity imported ..... N/A kg

Quantity processed ..... 0.4 kg

Year ending ..... [1][2] Mo. [8][6] Year

Quantity manufactured ..... N/A kg

Quantity imported ..... N/A kg

Quantity processed ..... 0.6 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

[ ]

Continuous process 1

Semicontinuous process 2

Batch process ..... (3)

[ ] Mark (X) this box if you attach a continuation sheet.

2.06 CBI Specify the manner in which you processed the listed substance. Circle all appropriate process types.

[ ]

Continuous process 1

Semicontinuous process 2

Batch process ..... (3)

2.07 CBI State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

[ ]

Manufacturing capacity ..... N/A kg/yr

Processing capacity ..... N/A kg/yr

2.08 CBI If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

[ ]

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	N/A	N/A	N/A
Amount of decrease	N/A	N/A	N/A

NO CHANGES PLANNED

[ ] Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

[ ]

	Days/Year	Average Hours/Day
Process Type #1 (The process type involving the largest quantity of the listed substance.)		
Manufactured	N/A	N/A
Processed	4	3
Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)		
Manufactured	N/A	N/A
Processed	3	3
Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)		
Manufactured	N/A	N/A
Processed	N/A	N/A

2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

[ ]

Maximum daily inventory	N/A	kg
Average monthly inventory	N/A	kg

[ ] Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

[ ]

CAS No.	Chemical Name	Byproduct, Coproduct or Impurity[1]	Concentration (%) (specify ± % precision)	Source of Byproducts, Coproducts, or Impurities
UK	UK	COPRODUCTS	93-94%	ADDED BY VENDOR

[1]Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

[ ] Mark (X) this box if you attach a continuation sheet.

2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the CBI quantity of listed substance used captively on-site as a percentage of the value [ ] listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

a. Product Types[1]	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-Users[2]
K	100	100	H

[1]Use the following codes to designate product types:

A = Solvent
B = Synthetic reactant
C = Catalyst/Initiator/Accelerator/Sensitizer
D = Inhibitor/Stabilizer/Scavenger/Antioxidant
E = Analytical reagent
F = Chelator/Coagulant/Sequestrant
G = Cleanser/Detergent/Degreaser
H = Lubricant/Friction modifier/Antiwear agent
I = Surfactant/Emulsifier
J = Flame retardant
K = Coating/Binder/Adhesive and additives
L = Moldable/Castable/Rubber and additives
M = Plasticizer
N = Dye/Pigment/Colorant/Ink and additives
O = Photographic/Reprographic chemical and additives
P = Electrodeposition/Plating chemicals
Q = Fuel and fuel additives
R = Explosive chemicals and additives
S = Fragrance/Flavor chemicals
T = Pollution control chemicals
U = Functional fluids and additives
V = Metal alloy and additives
W = Rheological modifier
X = Other (specify) _____

[2]Use the following codes to designate the type of end-users:

I = Industrial
CM = Commercial
CS = Consumer
H = Other (specify) Government

[ ] Mark (X) this box if you attach a continuation sheet.

2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI
[ ]

a. Product Types[1]	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-Users[2]
K	100	100	H

[1]Use the following codes to designate product types:

A = Solvent
B = Synthetic reactant
C = Catalyst/Initiator/Accelerator/Sensitizer
D = Inhibitor/Stabilizer/Scavenger/Antioxidant
E = Analytical reagent
F = Chelator/Coagulant/Sequestrant
G = Cleanser/Detergent/Degreaser
H = Lubricant/Friction modifier/Antiwear agent
I = Surfactant/Emulsifier
J = Flame retardant
K = Coating/Binder/Adhesive and additives
L = Moldable/Castable/Rubber and additives
M = Plasticizer
N = Dye/Pigment/Colorant/Ink and additives
O = Photographic/Reprographic chemical and additives
P = Electrodeposition/Plating chemicals
Q = Fuel and fuel additives
R = Explosive chemicals and additives
S = Fragrance/Flavor chemicals
T = Pollution control chemicals
U = Functional fluids and additives
V = Metal alloy and additives
W = Rheological modifier
X = Other (specify) _____

[2]Use the following codes to designate the type of end-users:

I = Industrial
CM = Commercial
CS = Consumer
H = Other (specify) Government

[ ] Mark (X) this box if you attach a continuation sheet.

2.14 CBI [ ] Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

a. Product Type[1]	b. Final Product's Physical Form[2]	c. Average % Composition of Listed Substance in Final Product	d. Type of End-Users[3]
K	F4	0	H

[1]Use the following codes to designate product types:

A = Solvent
B = Synthetic reactant
C = Catalyst/Initiator/Accelerator/ Sensitizer
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant
E = Analytical reagent
F = Chelator/Coagulant/Sequestrant
G = Cleanser/Detergent/Degreaser
H = Lubricant/Friction modifier/Antiwear agent
I = Surfactant/Emulsifier
J = Flame retardant
K = Coating/Binder/Adhesive and additives
L = Moldable/Castable/Rubber and additives
M = Plasticizer
N = Dye/Pigment/Colorant/Ink and additives
O = Photographic/Reprographic chemical and additives
P = Electrodeposition/Plating chemicals
Q = Fuel and fuel additives
R = Explosive chemicals and additives
S = Fragrance/Flavor chemicals
T = Pollution control chemicals
U = Functional fluids and additives
V = Metal alloy and additives
W = Rheological modifier
X = Other (specify) _____

[2]Use the following codes to designate the final product's physical form:

A = Gas
B = Liquid
C = Aqueous solution
D = Paste
E = Slurry
F1 = Powder
F2 = Crystalline solid
F3 = Granules
F4 = Other solid
G = Gel
H = Other (specify) _____

[3]Use the following codes to designate the type of end-users:

I = Industrial
CM = Commercial
CS = Consumer
H = Other (specify) Government

[ ] Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the
CBI listed substance to off-site customers.

[ ] Truck ..... N/A 1

Railcar 2

Barge, Vessel 3

Pipeline 4

Plane 5

Other (specify) NONE SHIPPED TO CUSTOMERS 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers or prepared by your customers during the reporting year for use under each category
CBI of end use listed (i-iv).

[ ]

Category of End Use

i. Industrial Products

Chemical or mixture ..... N/A kg/yr

Article ..... N/A kg/yr

ii. Commercial Products

Chemical or mixture ..... 0 kg/yr

Article ..... 0 kg/yr

iii. Consumer Products

Chemical or mixture ..... N/A kg/yr

Article ..... N/A kg/yr

iv. Other

Distribution (excluding export) ..... 0 ~~N/A~~ kg/yr

Export ..... 0 ~~N/A~~ kg/yr

Quantity of substance consumed as reactant ..... 0 ~~N/A~~ kg/yr

Unknown customer uses ..... 0 ~~N/A~~ kg/yr

[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART A GENERAL DATA

3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
CBI The average price is the market value of the product that was traded for the listed substance.
[ ]

Source of Supply	Quantity (kg)	Average Price ($/kg)
The listed substance was manufactured on-site.	0	0
The listed substance was transferred from a different company site.	0	0
The listed substance was purchased directly from a manufacturer or importer.	26.8 Kg	$37.28/kg
The listed substance was purchased from a distributor or repackager.	0	0
The listed substance was purchased from a mixture producer.	0	0

3.02 Circle all applicable modes of transportation used to deliver the listed substance to
CBI your facility.
[ ]

Truck ..... (1)
Railcar 2
Barge, Vessel 3
Pipeline 4
Plane 5
Other (specify) _____ 6

[ ] Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your facility.

CBI

[ ]

Bags 1

Boxes 2

Free standing tank cylinders 3

Tank rail cars 4

Hopper cars 5

Tank trucks 6

Hopper trucks 7

Drums 8

Pipeline 9

Other (specify) 1 Gallon Cans ..... (10)

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders ..... N/A mmHg

Tank rail cars ..... N/A mmHg

Tank trucks ..... N/A mmHg

[ ] Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

[ ]

Trade Name	Supplier or Manufacturer	Average % Composition by Weight (specify ± % precision)	Amount Processed (kg/yr)
SOLITHANE S-113	MORTON THIOKOL INC.	6-7%	.7 Kg/yr

[ ] Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

3.05 CBI [ ] State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

	Quantity Used (kg/yr)	% Composition by Weight of Listed Substance in Raw Material (specify ± % precision)
Class I chemical	0.7 Kg/yr	6-7 %
Class II chemical	N/A	N/A
Polymer		

[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

4.01 Specify the percent purity for the three major[1] technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI
[ ]

	Manufacture	Import	Process
Technical grade #1	N/A % purity	N/A % purity	6-7 % purity
Technical grade #2	% purity	% purity	N/A % purity
Technical grade #3	% purity	% purity	N/A % purity

[1]Major = Greatest quantity of listed substance manufactured, imported or processed.

4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... (1)

No 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company 1

Another source ..... (2)

☒ Mark (X) this box if you attach a continuation sheet.

MSDS ATTACHMENT

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ....AFTER APPENDIX I..... (1)

No 2

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

[ ]

	Physical State				
Activity	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	(3)	4	(5)
Store	1	2	(3)	4	5
Dispose	1	2	(3)	4	(5)
Transport	1	2	3	4	5

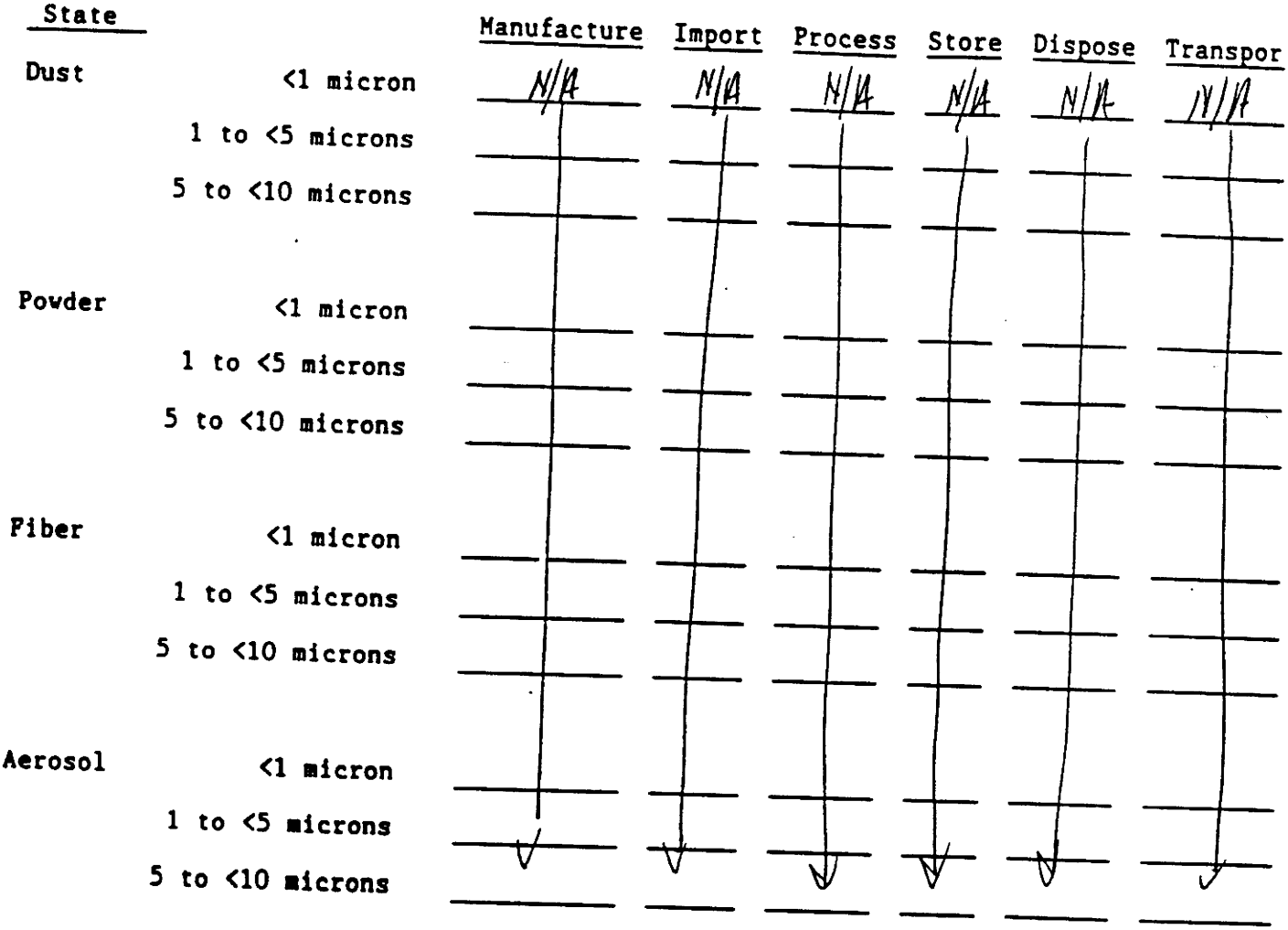
☒ Mark (X) this box if you attach a continuation sheet.

ADDITIONAL HAZARD INFO ATTACHMENT

4.05 Particle Size -- If the listed substance exists in particulate form during any of th following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥10 microns in diameter. Measure the physical state and particle sizes fo importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

[ ]



[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 5 ENVIRONMENTAL FATE

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... UK (1/M cm) at UK nm

Reaction quantum yield, ϕ ..... UK at UK nm

Direct photolysis rate constant, k_p, at ... UK 1/hr UK latitude

b. Oxidation constants at 25°C:

For $^1O_2$ (singlet oxygen), k_{ox} ..... UK 1/M hr

For RO_2 (peroxy radical), k_{ox} ..... UK 1/M hr

c. Five-day biochemical oxygen demand, BOD_5 ... UK mg/l

d. Biotransformation rate constant:

For bacterial transformation in water, k_b... UK 1/hr

Specify culture ..... UK

e. Hydrolysis rate constants:

For base-promoted process, k_B ..... UK 1/M hr

For acid-promoted process, k_A ..... UK 1/M hr

For neutral process, k_N ..... UK 1/hr

f. Chemical reduction rate (specify conditions) UK

g. Other (such as spontaneous degradation) ... UK

[ ] Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

Media	Half-life (specify units)
Groundwater	UK
Atmosphere	UK
Surface water	UK
Soil	UK

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

CAS No.	Name	Half-life (specify units)		Media
584-84-9	UK	UK	in	UK
N/A			in	
			in	
			in	

5.03 Specify the octanol-water partition coefficient, K_{ow} ... UK at 25°C

Method of calculation or determination ..... UK

5.04 Specify the soil-water partition coefficient, K_d ..... UK at 25°C

Soil type ..... UK

5.05 Specify the organic carbon-water partition coefficient, K_{oc} ..... UK at 25°C

5.06 Specify the Henry's Law Constant, H ..... UK atm-m^3/mole

[ ] Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

Bioconcentration Factor	Species	Test[1]
UK	UK	UK

[1]Use the following codes to designate the type of test:

F = Flowthrough
S = Static

[ ] Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of
CBI the listed substance sold or transferred in bulk during the reporting year.

[ ]

Market	Quantity Sold or Transferred (kg/yr)	Total Sales Value ($/yr)
Retail sales	N/A	N/A
Distribution -- Wholesalers		
Distribution -- Retailers		
Intra-company transfer		
Repackagers		
Mixture producers		
Article producers		
Other chemical manufacturers or processors		
Exporters		
Other (specify) _____		

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use
CBI in your current operation, and which results in a final product with comparable performance in its end uses.

[ ]

Substitute	Cost ($/kg)
NONE EVALUATED TO THIS DATE	N/A

[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

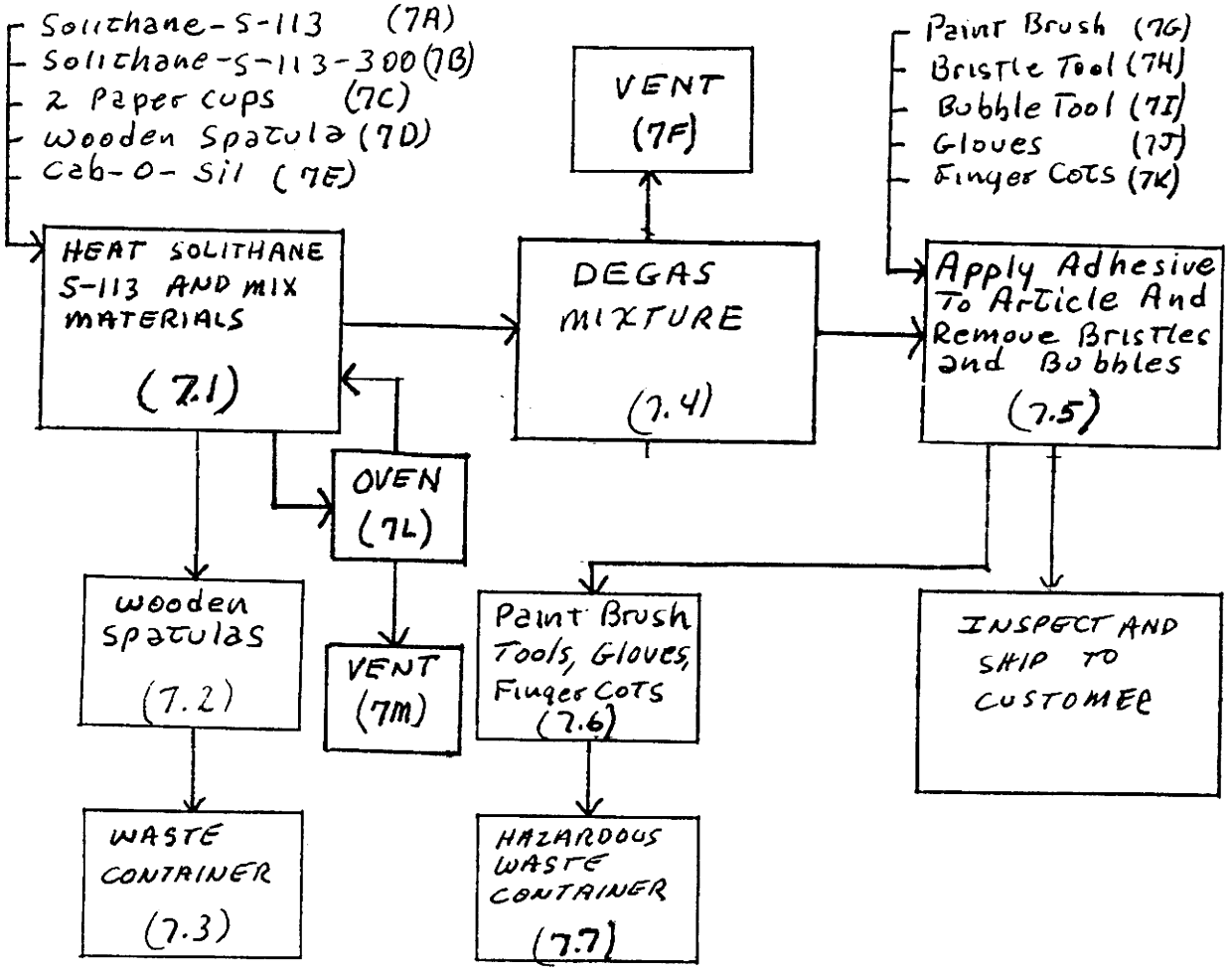
For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

[ ] Process type ..... COATING



[ ] Mark (X) this box if you attach a continuation sheet.

7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

[ ] Process type ..... N/A

[ ] Mark (X) this box if you attach a continuation sheet.

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composition
7.1	Lab Bench, Balance	Ambient	Ambient	N/A
7.2	Paper Cups, Wooden Spatula	Ambient	Ambient	Paper/Wood
7.3	Waste Can	Ambient	Ambient	Plastic
7.4	Vacuum Pump, Bell Jar	Ambient	10 mm Hg	Glass Bell Jar
7.5	Lab Bench Paint Brush	Ambient	Ambient	N/A
7.6	Paint Brush, Gloves, Finger Cots, Bristle and Bubble Tools	Ambient	Ambient	Wood/Metal
7.7	Waste Can for Hazardous Materials	Ambient	Ambient	Plastic
7.L	OVEN	65.5°C	Ambient	Metal

[ ] Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Process Stream ID Code	Process Stream Description	Physical State[1]	Stream Flow (kg/yr)
7A	Solithane-s-113 Reactant	OL	0.7
7B	Solithane-s-113/300 Reactant	OL	0.438
7C	Paper Cups	SO	0.140 Kg
7D	Wooden Spatula	SO	0.070 Kg
7E	Cab-O-Sil Filler	SO	0.072 kg
7F	Fumes From Process	GC	UK
7G	Paint Brush	SO	0.7 Kg
7H and 7I	Bristle Remover Tool	SO	.140 Kg

[1]Use the following codes to designate the physical state for each process stream:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☒ Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

[ ] Process type ..... COATING

a. Process Stream ID Code	b. Known Compounds[1]	c. Concentrations[2,3] (% or ppm)	d. Other Expected Compounds	e. Estimated Concentrations (% or ppm)
7A	Toluene Diisocyanate	6-7%	UK	93-94%
7B	RICINUS OIL	100%	UK	UK
7C	NONE	N/A	N/A	N/A

7.06 continued below

☒ Mark (X) this box if you attach a continuation sheet.

7D, 7E, and 7F are on First Continuation Page
7G, 7H, and 7I are on second Continuation Page
7J, 7K, 7L, and 7M are on third Continuation Page

7.06 (continued)

[1]For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1	N/A	N/A
2		
3		
4		
5		

[2]Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

[3]Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

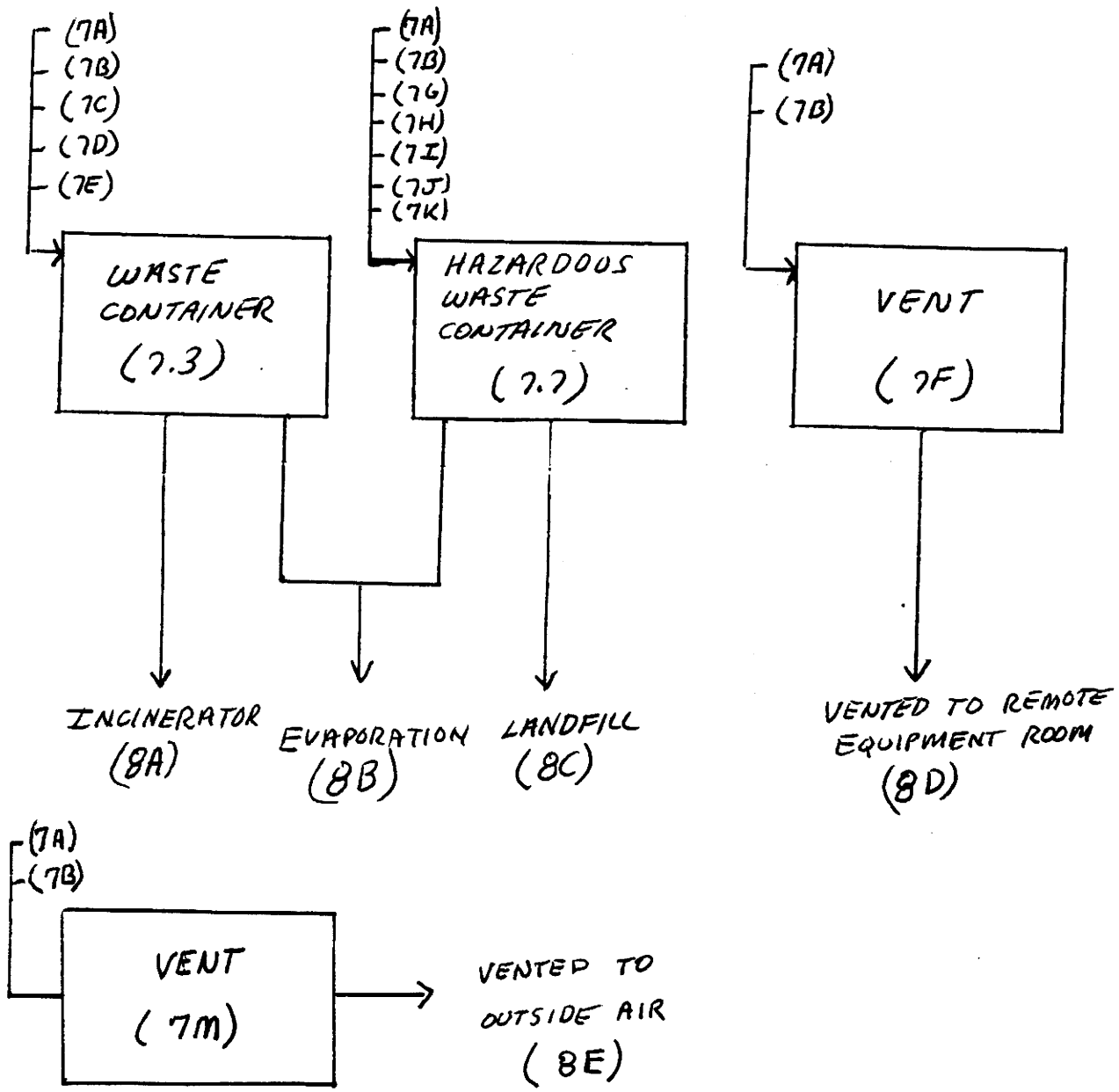
[ ] Mark (X) this box if you attach a continuation sheet.

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

[ ] Process type ..... COATING



[ ] Mark (X) this box if you attach a continuation sheet.

PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... COATING

a. Stream ID Code	b. Type of Hazardous Waste[1]	c. Physical State of Residual[2]	d. Known Compounds[3]	e. Concentrations (% or ppm)[4,5,6]	f. Other Expected Compounds	g. Estimated Concentrations (% or ppm)
8A	T	OL	TOLUENE DIISOCYANATE	6-7% (UK)	UK	UK
		OL	RICINUS OIL	100% (UK)	UK	UK
		GU			HCN	UK
		SO	SILICON DIOXIDE	100% (UK)	UK	UK
8B	T	GC	TOLUENE DIISOCYANATE	UK	UK	UK
		GU			HCN	UK
8C	T	OL	TOLUENE DIISOCYANATE	6-7% (UK)	UK	UK
		OL	RICINUS OIL	100% (UK)	UK	UK
		GU			HCN	UK
		SO	SILICON DIOXIDE	100% (UK)		
8D	T	GC	TOLUENE DIISOCYANATE	6-7% (UK)	UK	UK
		GU			HCN	UK

8.05 continued below

☒ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

[1]Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

[2]Use the following codes to designate the physical state of the residual:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

8.05 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

[3]For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1	N/A	N/A
2		
3		
4		
5		

[4]Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

8.05 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

[5]Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

[6]Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

Code	Method	Detection Limit (± ug/l)
1	N/A	N/A
2		
3		
4		
5		
6		

[ ] Mark (X) this box if you attach a continuation sheet.

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... Coating

a. Stream ID Code	b. Waste Description Code[1]	c. Management Method Code[2]	d. Residual Quantities (kg/yr)	e. Management of Residual (%) On-Site	e. Management of Residual (%) Off-Site	f. Costs for Off-Site Management (per kg)	g. Changes in Management Methods
8A	A10	10I	0.007	100			1D (1/90)
8B	B69	M5(a)	UK	100		N/A	
8C	B69	1D	.207		100.00	$0.34/kg	
8D	B69	M5(c) VENT TO REMOTE ROOM	UK	100		N/A	

[1]Use the codes provided in Exhibit 8-1 to designate the waste descriptions

[2]Use the codes provided in Exhibit 8-2 to designate the management methods

☒ Mark (X) this box if you attach a continuation sheet.

8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1	N/A	N/A	N/A	N/A	N/A	N/A
2	↓	↓	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... N/A 1

No ..... N/A 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

Incinerator	Air Pollution Control Device[1]	Types of Emissions Data Available
1	NONE	Particulate, CO_2, Opacity
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No ..... (2)

[1]Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)
E = Electrostatic precipitator
O = Other (specify) NONE

[ ] Mark (X) this box if you attach a continuation sheet.

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the CBI records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

[ ]

Data Element	Data are Maintained for: Hourly Workers	Salaried Workers	Year in Which Data Collection Began	Number of Years Records Are Maintained
Date of hire	Y	Y	1977 (1)	MINIMUM 30 YEARS (2)
Age at hire	Y	Y	"	"
Work history of individual before employment at your facility	N	N	N/A	N/A
Sex	Y	Y	1977 (1)	MINIMUM 30 YEARS (2)
Race	Y	Y	"	"
Job titles	Y	Y	"	"
Start date for each job title	Y	Y	"	"
End date for each job title	Y	Y	"	"
Work area industrial hygiene monitoring data	Y	Y	"	"
Personal employee monitoring data	Y	Y	"	"
Employee medical history	Y	Y	"	"
Employee smoking history	N	N	N/A	N/A
Accident history	Y	Y	1977 (1)	MINIMUM 30 YEARS (2)
Retirement date	Y	Y	1977 (1)	MINIMUM 30 YEARS (2)
Termination date	Y	Y	"	"
Vital status of retirees	Y	Y	"	"
Cause of death data	Y	Y	"	"

(1) Automated Records Kept Since 1977. Prior To That Data Are Kept On Hard Copies IN Permanent Records.

(2) Personnel Records Are Kept In Permanent Records. Currently No Plan Exists To Purge These Records. SOP INDICATES TO KEEP FOR MINIMUM OF 30 YEARS

[ ] Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

[ ]

a. Activity	b. Process Category	c. Yearly Quantity (kg)	d. Total Workers	e. Total Worker-Hours
Manufacture of the listed substance	Enclosed	N/A	N/A	N/A
	Controlled Release			
	Open			
On-site use as reactant	Enclosed			
	Controlled Release			
	Open			
On-site use as nonreactant	Enclosed			
	Controlled Release			
	Open			
On-site preparation of products	Enclosed			
	Controlled Release			
	Open	0.3	7	9.25

This Activity is for one type of Article, an 090. The process is the same for Both Types.

[ ] Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

[ ]

a. Activity	b. Process Category	c. Yearly Quantity (kg)	d. Total Workers	e. Total Worker-Hours
Manufacture of the listed substance	Enclosed	N/A	N/A	N/A
	Controlled Release			
	Open			
On-site use as reactant	Enclosed			
	Controlled Release			
	Open			
On-site use as nonreactant	Enclosed			
	Controlled Release			
	Open			
On-site preparation of products	Enclosed			
	Controlled Release			
	Open	0.4	7	12.31

This activity is for one type of Article, an 041
The process is the same for both Types.

[ ] Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

[ ]

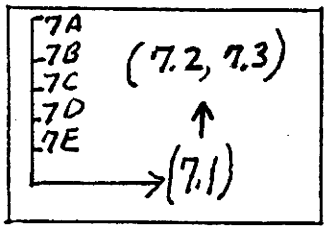
Labor Category	Descriptive Job Title
A	D0411 (PROCESSOR)
B	FACILITATOR (EXPEDITOR)
C	MECHANICAL ELECTRICAL ASSEMBLER
D	FOREMAN
E	MAINTENANCE 443B
F	DRIVERS
G	HAZARDOUS WASTE OPERATORS
H	CO-WORKER (IN Work Area 6)
I	
J	

[ ] Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

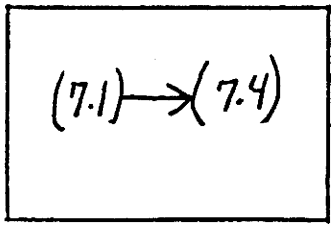
[ ] Process type ..... COATING



(1)

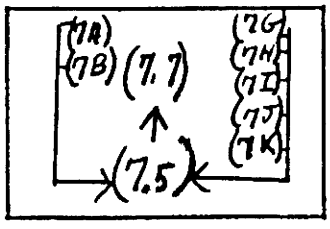
MIXING OF HEATED SOLITHANE S-113 WITH OTHER MATERIALS

HEATING DONE IN WORK AREA (6)



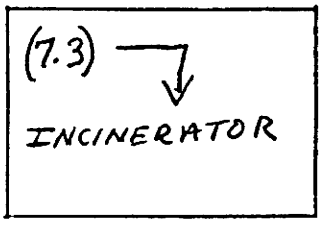
(2)

DEGASSING of MIXED MATERIALS



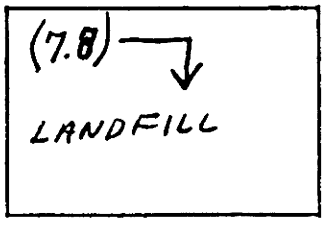
(3)

APPLICATION OF MIXED MATERIALS TO ARTICLE



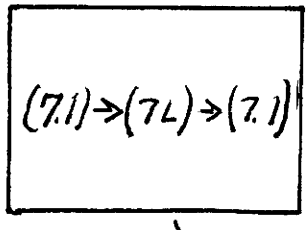
(4)

REMOVAL OF WASTE FROM WORK AREA (1) TO WORK AREA (4), THE INCINERATOR



(5)

REMOVAL OF WASTE FROM WORK AREA (3) TO THE HAZARDOUS WASTE OPERATOR FOR REMOVAL TO LANDFILL



(6)

HEATING SOLITHANE S-113 IN OVEN

[ ] Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Work Area ID	Description of Work Areas and Worker Activities
1	Solithane weighed in this Area but heated in Area 6 and returned here and mixed with other materials
2	mixture of solithanes and cab-o-sil Degassed at 10mm Mercury. Facilitator moves mixture to Area 3
3	mixture is painted onto article and bristles and bubbles removed. Allowed to cure these for 48 hours
4	maintenance workers remove trash from Area 1 to 4 where solid waste is thermally treated.
5	Hazardous waste operators remove waste from Area 3 to Area 5 where it is transported to landfill.
6	solithane heated for 30 minutes at 150°F in oven located in this area.
7	
8	
9	
10	

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 1

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance[1]	Average Length of Exposure Per Day[2]	Number of Days per Year Exposed
A	1	DIRECT SKIN CONTACT INHALATION	GC, OL	B	7
D	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7
E	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 2

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance[1]	Average Length of Exposure Per Day[2]	Number of Days per Year Exposed
A	1	DIRECT SKIN CONTACT INHALATION	GC, OL	B	7
B	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7
D	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 3

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance[1]	Average Length of Exposure Per Day[2]	Number of Days per Year Exposed
C	1	DIRECT SKIN CONTACT INHALATION	GC, OL	C	7
D	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 4

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance[1]	Average Length of Exposure Per Day[2]	Number of Days per Year Exposed
E	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question
CBI and complete it separately for each process type and work area.

[ ] Process type ..... COATING

Work area 5

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance[1]	Average Length of Exposure Per Day[2]	Number of Days per Year Exposed
F	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7
G	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 6

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance[1]	Average Length of Exposure Per Day[2]	Number of Days per Year Exposed
A	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7
H	1	DIRECT SKIN CONTACT INHALATION	GC, OL	A	7

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 1

Labor Category	8-hour TWA Exposure Level (ppm, mg/m^3, other-specify)	15-Minute Peak Exposure Level (ppm, mg/m^3, other-specify)
N/A	N/A	N/A

We have not monitored persons working with Solithane 5-113.

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 2

Labor Category	8-hour TWA Exposure Level (ppm, mg/m^3, other-specify)	15-Minute Peak Exposure Level (ppm, mg/m^3, other-specify)
N/A	N/A	N/A

We have not monitored persons working with Solithane 5-113.

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 3

Labor Category	8-hour TWA Exposure Level (ppm, mg/m^3, other-specify)	15-Minute Peak Exposure Leve (ppm, mg/m^3, other-specify)
N/A	N/A	N/A

We have not monitored persons working with Solithane 5-113.

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 4

Labor Category	8-hour TWA Exposure Level (ppm, mg/m^3, other-specify)	15-Minute Peak Exposure Leve (ppm, mg/m^3, other-specify)
N/A	N/A	N/A

We have not monitored persons working with Solithane 5-113.

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 5

Labor Category	8-hour TWA Exposure Level (ppm, mg/m^3, other-specify)	15-Minute Peak Exposure Level (ppm, mg/m^3, other-specify)
N/A	N/A	N/A

We have not monitored persons working with Solithane 5-113.

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 6

Labor Category	8-hour TWA Exposure Level (ppm, mg/m^3, other-specify)	15-Minute Peak Exposure Level (ppm, mg/m^3, other-specify)
N/A	N/A	N/A

We have not monitored persons working with Solithane S-113

[ ] Mark (X) this box if you attach a continuation sheet.

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI We have not monitored workers using Solithane-113

[ ]

Sample/Test	Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples[1]	Analyzed In-House (Y/N)	Number of Years Records Maintained
Personal breathing zone	N/A	N/A	N/A	N/A	N/A	N/A
General work area (air)						
Wipe samples						
Adhesive patches						
Blood samples						
Urine samples						
Respiratory samples						
Allergy tests						
Other (specify) _____						
Other (specify) _____						
Other (specify) _____						

[1]Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist
B = Insurance carrier
C = OSHA consultant
D = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and
CBI analytical methodology used for each type of sample.

[ ] Sample Type	Sampling and Analytical Methodology
N/A	N/A

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

[ ] Equipment Type[1]	Detection Limit[2]	Manufacturer	Averaging Time (hr)	Model Number
N/A	N/A	N/A	N/A	N/A

[1]Use the following codes to designate personal air monitoring equipment types:

A = Passive dosimeter
B = Detector tube
C = Charcoal filtration tube with pump
D = Other (specify) _____

Use the following codes to designate ambient air monitoring equipment types:

E = Stationary monitors located within work area
F = Stationary monitors located within facility
G = Stationary monitors located at plant boundary
H = Mobile monitoring equipment (specify) _____
I = Other (specify) _____

[2]Use the following codes to designate detection limit units:

A = ppm
B = Fibers/cubic centimeter (f/cc)
C = Micrograms/cubic meter (μ/m^3)

[ ] Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

[ ]	Test Description	Frequency (weekly, monthly, yearly, etc.)
	N/A	N/A

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 1

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	N	N/A	N	N/A
General dilution	Y	N/A	N	
Other (specify)				
	N	N/A	N	
Vessel emission controls	Y	N/A	N	
Mechanical loading or packaging equipment	N	N/A	N	
Other (specify)				
	N	N/A	N	

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 2

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	N	N/A	N	N/A
General dilution	Y	N/A	N	
Other (specify) _____	N	N/A	N	
Vessel emission controls	Y	N/A	N	
Mechanical loading or packaging equipment	N	N/A	N	
Other (specify) _____	N	N/A	N	

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 3

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	N	N/A	N	N/A
General dilution	Y	N/A	N	N/A
Other (specify) _____	N	N/A	N	N/A
Vessel emission controls	Y	N/A	N	N/A
Mechanical loading or packaging equipment	N	N/A	N	N/A
Other (specify) _____	N	N/A	N	N/A

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 4

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	N	N/A	N	N/A
General dilution	Y		N	
Other (specify)				
	N		N	
Vessel emission controls	Y		N	
Mechanical loading or packaging equipment	N		N	
Other (specify)				
	N		N	

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 5

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	N	N/A	N	N/A
General dilution	Y		N	
Other (specify)	N		N	
Vessel emission controls	Y		N	
Mechanical loading or packaging equipment	N		N	
Other (specify)	N	V	N	V

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 6

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	Y	1977	N	N/A
General dilution	Y	N/A	N	
Other (specify) _____	N		N	
Vessel emission controls	Y		N	
Mechanical loading or packaging equipment	N		N	
Other (specify) _____	N		N	

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 **Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.**

CBI

[ ] Process type ..... COATING

Work area 1

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
None	N/A
↓	↓
↓	↓

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 **Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.**

CBI

[ ] Process type ..... COATING

Work area 2

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
none	N/A
↓	↓
↓	↓
↓	

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 **Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.**

CBI

[ ] Process type ..... COATING

Work area 3

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
None	N/A
↓	↓

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 4

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
none	N/A

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 **Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.**

CBI

[ ] Process type ..... COATING

Work area 5

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
None	N/A
↓	↓

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 **Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.**

CBI

[ ] Process type ..... COATING

Work area 6

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
None	None
↓	↓

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 1

Equipment Types	Wear or Use (Y/N)
Respirators	N
Safety goggles/glasses	N
Face shields	N
Coveralls	N
Bib aprons	N
Chemical-resistant gloves	N
Other (specify)	
	N
Lab Coat or Apron	Y

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 2

Equipment Types	Wear or Use (Y/N)
Respirators	N
Safety goggles/glasses	N
Face shields	N
Coveralls	N
Bib aprons	N
Chemical-resistant gloves	N
Other (specify)	
	N
Lab Coat or Apron	Y

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 3

Equipment Types	Wear or Use (Y/N)
Respirators	N
Safety goggles/glasses	N
Face shields	N
Coveralls	N
Bib aprons	N
Chemical-resistant gloves	Y
Other (specify)	
Lab Coats	Y

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 4

Equipment Types	Wear or Use (Y/N)
Respirators	N
Safety goggles/glasses	N
Face shields	N
Coveralls	Y
Bib aprons	N
Chemical-resistant gloves	N
Other (specify)	
Regular gloves	Y

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 5

Equipment Types	Wear or Use (Y/N)
Respirators	N
Safety goggles/glasses	N
Face shields	N
Coveralls	Y
Bib aprons	N
Chemical-resistant gloves	Y
Other (specify)	
_____	N
_____	N

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... COATING

Work area 6

Equipment Types	Wear or Use (Y/N)
Respirators	N
Safety goggles/glasses	N
Face shields	N
Coveralls	N
Bib aprons	N
Chemical-resistant gloves	N
Other (specify)	
	N

[ ] Mark (X) this box if you attach a continuation sheet.

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Work Area	Respirator Type	Average Usage[1]	Fit Tested (Y/N)	Type of Fit Test[2]	Frequency of Fit Tests (per year)
N/A	N/A	N/A	N/A	N/A	N/A

[1]Use the following codes to designate average usage:

A = Daily
B = Weekly
C = Monthly
D = Once a year
E = Other (specify) _____

[2]Use the following codes to designate the type of fit test:

QL = Qualitative
QT = Quantitative

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this
CBI question and complete it separately for each process type and work area.

[ ]

Process type ..... COATING

Work area 1

Workers wear Lab Coats or Aprons. In the reporting year they did not wear gloves but now do wear chemical resistant gloves. Procedures warn of over exposure to vapors

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... COATING

Work area 1

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming				
Water flushing of floors	X			
Other (specify)				

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

[ ]

Process type ..... COATING

Work area 2

Workers wear Lab Coats or Aprons. In the reporting year They did not wear chemical resistant gloves but they do now Procedures warn of overexposure to vapors

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... COATING

Work area 2

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming				
Water flushing of floors	X			
Other (specify)				

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

[ ]

Process type ..... COATING

Work area 3

Workers Wear Gloves or Finger Cots and Lab Coats. Procedures warn of overexposure to Vapors

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... COATING

Work area 3

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming				
Water flushing of floors	X			
Other (specify)				

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

[ ]

Process type ..... COATING

Work area 4

Wokers wear gloves and coveralls or aprons. Procedures warn of overexposure to vapors

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... COATING

Work area 4

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming				
Water flushing of floors	X			
Other (specify)				

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

[ ]

Process type ..... COATING

Work area 5

Workers wear coveralls and gloves. Persons handling hazardous waste are trained in handling of hazardous materials

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... COATING

Work area 5

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming				
Water flushing of floors	X			
Other (specify)				

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this CBI question and complete it separately for each process type and work area.

[ ]

Process type ..... COATING

Work area 6

Work conducted in High Bay Area with lot of Air Circulation

Procedures warn of overexposure to vapors

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... COATING

Work area 6

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping		X		
Vacuuming				
Water flushing of floors	X			
Other (specify)				

[ ] Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes ..... N/A 1

No ..... N/A 2

Emergency exposure

Yes ..... N/A 1

No ..... N/A 2

If yes, where are copies of the plan maintained?

Routine exposure: _____

Emergency exposure: _____

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... (1)

No 2

If yes, where are copies of the plan maintained? VARIOUS LOCATIONS THROUGHOUT THE PLANT AND SPECIFICALLY IN OUR EMERGENCY PLAN - 8 IN THE OFFICE OF ENVIRONMENTAL COMPLIANCE DEPT 4410

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes ..... (1)

No 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... N/A 1

Insurance carrier ..... N/A 2

OSHA consultant ..... N/A 3

Other (specify) _____ ..... N/A 4

[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 10 ENVIRONMENTAL RELEASE

General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

PART A GENERAL INFORMATION

10.01 Where is your facility located? Circle all appropriate responses.

CBI

[ ] Industrial area ..... (1)

Urban area ..... (2)

Residential area ..... (3)

Agricultural area 4

Rural area 5

Adjacent to a park or a recreational area 6

Within 1 mile of a navigable waterway 7

Within 1 mile of a school, university, hospital, or nursing home facility 8

Within 1 mile of a non-navigable waterway ..... (9)

Other (specify) _____ 10

[ ] Mark (X) this box if you attach a continuation sheet.

10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... 38 ° 45 ' 30N "

Longitude ..... 90 ° 22 ' 0W "

UTM coordinates ..... Zone 15, Northing 2900, Easting 9300

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation ..... N/A inches/year

Predominant wind direction ..... N/A

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater ..... N/A meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of Y, N, and NA.)

CBI

[ ]

On-Site Activity	Environmental Release		
	Air	Water	Land
Manufacturing	N/A	N/A	N/A
Importing	N/A	N/A	N/A
Processing	Y	N	N
Otherwise used	N/A	N/A	N/A
Product or residual storage	Y	N	N
Disposal	Y	N	Y
Transport	N	N	N

[ ] Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

[ ]

Quantity discharged to the air	0.486	kg/yr ±	15 %
Quantity discharged in wastewaters	0	kg/yr ±	___ %
Quantity managed as other waste in on-site treatment, storage, or disposal units	0.007 Kg	kg/yr ±	15 %
Quantity managed as other waste in off-site treatment, storage, or disposal units	0.207 Kg	kg/yr ±	15 %

[ ] Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Stream ID Code	Control Technology	Percent Efficiency
8A	Material stored in Airtight Containers	UK
8A	Waste Incinerated in Timely Manner	UK
8B	NONE	UK
8C	Waste Removed in Timely Manner	UK
8D	None	UK
8E	None	UK

[ ] Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI
[ ]

Process type ..... COATING

Point Source ID Code	Description of Emission Point Source
8A	Evaporation During Weighing and Degreasing
8A	Evaporation from Waste Containers
8B	Evaporation during Application to Article
8B	Evaporation from Waste Containers
8C	Evaporation from Waste Containers
8D	Evaporation from Degassing Operation
8E	Evaporation During Heating

[ ] Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics - - Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

[ ]

	Point Source ID Code	Physical State[1]	Average Emissions (kg/day)	Frequency[2] (days/yr)	Duration[3] (min/day)	Average Emission Factor[4]	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
(MIXING)	8A	V	0.00000184kg	7	10	N/A	0.00000184kg	7	10
(DEGASSING)	8A	V	UK	7	10		UK	7	10
(INCINERATION)	8A	V		7				7	
(Application)	8B	V	UK	7	150		UK	7	150
(WASTE Evaporation)	8A	V	UK	7	UK		UK	7	UK
(Evaporation)	8C	V	UK	7	UK		UK	7	UK
(Evaporation)	8D	V	UK	7	UK		UK	7	UK
(Heating)	8E	V	UK	7	30min		UK	7	30min

[1]Use the following codes to designate physical state at the point of release:
G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) _____

[2]Frequency of emission at any level of emission

[3]Duration of emission at any level of emission

[4]Average Emission Factor — Provide estimated (± 25 percent) emission factor (kg of emission per kg of production of listed substance)

[ ] Mark (X) this box if you attach a continuation sheet.

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

[ ]

Point Source ID Code	Stack Height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m)[1]	Building Width(m)[2]	Vent Type[3]
8A	9.12	0.6 M	193-204°C	29	19.1	51.8	V
8E	10.9	0.2	< 93°C	UK	19.1	51.8	V

[1]Height of attached or adjacent building

[2]Width of attached or adjacent building

[3]Use the following codes to designate vent type:

H = Horizontal
V = Vertical

[ ] Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source.

CBI

[ ]

Point source ID code ..... N/A

Size Range (microns)	Mass Fraction (% ± % precision)
< 1	N/A
≥ 1 to < 10	
≥ 10 to < 30	
≥ 30 to < 50	
≥ 50 to < 100	
≥ 100 to < 500	
≥ 500	

Total = 100%

[ ] Mark (X) this box if you attach a continuation sheet.

PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Coating

Percentage of time per year that the listed substance is exposed to this process type ..... 0.013 %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					
	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%
Pump seals[1]						
Packed	1	0	0	0	0	0
Mechanical	1					
Double mechanical[2]	0					
Compressor seals[1]						
Flanges						
Valves						
Gas[3]						
Liquid						
Pressure relief devices[4] (Gas or vapor only)						
Sample connections						
Gas						
Liquid						
Open-ended lines[5] (e.g., purge, vent)						
Gas	2					
Liquid	0					

[1] List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

[ ] Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

[2]If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

[3]Conditions existing in the valve during normal operation

[4]Report all pressure relief devices in service, including those equipped with control devices

[5]Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

[ ]

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel[1]	c. Control Device	d. Estimated Control Efficiency[2]
1	< 5%	NONE	UK
N/A	N/A	N/A	N/A

[1]Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

[2]The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

[ ] Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Equipment Type	Leak Detection Concentration (ppm or mg/m^3) Measured at ____ Inches from Source	Detection Device[1]	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
Pump seals					
Packed	N/A	N/A	N/A	N/A	N/A
Mechanical					
Double mechanical					
Compressor seals					
Flanges					
Valves					
Gas					
Liquid					
Pressure relief devices (gas or vapor only)					
Sample connections					
Gas					
Liquid					
Open-ended lines					
Gas					
Liquid					

[1]Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer
FPM = Fixed point monitoring
O = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

[ ] Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

Vessel Type[1]	Floating Roof Seals[2]	Composition of Stored Materials[3]	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Vessel Volume (l)	Vessel Emission Controls[4]	Design Flow Rate[5]	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate[6]
	not applicable: we store only in the original 1 gallon cans												

[1]Use the following codes to designate vessel type:

F = Fixed roof
CIF = Contact internal floating roof
NCIF = Noncontact internal floating roof
EFR = External floating roof
P = Pressure vessel (indicate pressure rating)
H = Horizontal
U = Underground

[2]Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary
MS2 = Shoe-mounted secondary
MS2R = Rim-mounted, secondary
LM1 = Liquid-mounted resilient filled seal, primary
LM2 = Rim-mounted shield
LMW = Weather shield
VM1 = Vapor mounted resilient filled seal, primary
VM2 = Rim-mounted secondary
VMW = Weather shield

[3]Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

[4]Other than floating roofs

[5]Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

[6]Use the following codes to designate basis for estimate of control efficiency:

C = Calculations
S = Sampling

PART E NON-ROUTINE RELEASES

10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

WE HAVE HAD NO NON-ROUTINE RELEASES OF THIS SUBSTANCE

Release	Date Started	Time (am/pm)	Date Stopped	Time (am/pm)
1	N/A	N/A	N/A	N/A
2				
3				
4				
5				
6				

10.24 Specify the weather conditions at the time of each release.

Release	Wind Speed (km/hr)	Wind Direction	Humidity (%)	Temperature (°C)	Precipitation (Y/N)
1	N/A	N/A	N/A	N/A	N/A
2					
3					
4					
5					
6					

[ ] Mark (X) this box if you attach a continuation sheet.

APPENDIX I: List of Continuation Sheets

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

Question Number (1)	Continuation Sheet Page Numbers (2)
4.02	1-5
4.03	1
7.05	1
7.06	1-3
8.05	1
8.06	1

[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

4.01 Specify the percent purity for the three major[1] technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI [ ]

	Manufacture	Import	Process
Technical grade #1	N/A % purity	N/A % purity	6-7 % purity
Technical grade #2	↓ % purity	↓ % purity	N/A % purity
Technical grade #3	↓ % purity	↓ % purity	N/A % purity

[1]Major = Greatest quantity of listed substance manufactured, imported or processed.

4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... (1)

No 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company 1

Another source ..... (2)

☒ Mark (X) this box if you attach a continuation sheet.

MSDS ATTACHMENT

INSERT FOR CAIR REPORT 402 ON SOLITHANE 113. Question
J.W. Lanham McDonnell Douglas
P.O. BOX 516 ST. LOUIS MO. 63166

MORTON THIOKOL, INC.
MORTON CHEMICAL DIVISION
333 WEST WACKER DRIVE
CHICAGO, IL 60606-1292

MATERIAL SAFETY DATA SHEET
DOCUMENT PREPARED: 02/24/89
PRODUCT: SOLITHANE 113

SECTION 1: PRODUCT INFORMATION

PRODUCT NAME: SOLITHANE 113 EFFECTIVE DATE: 02/24/89

CHEMICAL NAME: Isocyanate Terminated Polyol SUPERCEDES: 12/87

PRODUCT USE: Coatings and Castings

EMERGENCY PHONE: (815)338-1800 (24 hours/day) OTHER INFORMATION PHONE: (312)807-3421

SECTION 2: HAZARDOUS INGREDIENTS

CHEMICAL NAME/COMMON NAME	% [1]	CAS NO.	OSHA PEL	ACGIH TLV	OTHER
*Toluene Diisocyanate/ TDI	6-7	584-84-9	0.02 ppm [2]	0.005 ppm	TLV-STEL - 0.02 ppm

SECTION 3: PHYSICAL DATA [1]

% NON-VOLATILES: 93

VAPOR DENSITY (Air = 1): > 6

pH: Not Applicable

BOILING POINT: 482 F (250 C) @ 760 mm Hg

VAPOR PRESSURE: Not Applicable

SOLUBILITY IN WATER: Not Applicable

SPECIFIC GRAVITY (water = 1): 1.073

EVAPORATION RATE (nBUOAc = 1): < 1

APPEARANCE AND ODOR: Pale Yellow; Irritating Pungent Odor

SECTION 4: FIRE AND EXPLOSION HAZARDS

FLASH POINT: > 200 F (94 C)

METHOD USED: Setaflash

FLAMMABLE LIMITS:
LEL: Not Applicable
UEL: Not Applicable

[1] Typical amount, not a specification.
[2] Governed by a ceiling limit value (C) - The value which should not be exceeded during any part of the working exposure.

EXTINGUISHING MEDIA: Use foam, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with NIOSH/MSHA approved self-contained full-face positive pressure breathing apparatus should be worn.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, oxides of nitrogen, possibly aromatic amines, aldehydes, ammonia, and small amounts of hydrogen cyanide under burning conditions.

SECTION 5: HEALTH HAZARD DATA

ORAL TOXICITY:
Unknown for product mixture. Animal experiments indicate that the toxic effects of TDI or polymeric isocyanates when ingested are slight. The LD50 in rats for TDI is 5840 mg/kg. From these experiments, it is believed that ingestion of TDI or polymeric isocyanates would not be fatal to humans, but could result in irritation and corrosive action on the mouth and stomach tissue.

TDI: orl-rat: LD50: 5800 mg/kg (R.T.E.C.S. No. CZ 6300000)

CONTINUATION FOR 4.02

SECTION 5: HEALTH HAZARD DATA, continued

DERMAL TOXICITY:
Unknown for product mixture. Isocyanates react with skin protein and tissue moisture. If not promptly removed, liquid spills on the skin can cause reddening, swelling, and blistering of the exposed skin. REPEATED SKIN CONTACT HAS CAUSED SKIN SENSITIZATION IN HUMANS AND SHOULD BE AVOIDED.

TDI: skn-rbt: 500 mg/24H MOD

EYE:
Unknown for product mixture. EYE CONTACT - LIQUID ISOCYANATES SPLASHED INTO THE EYES CAN BE HARMFUL TO THE DELICATE EYE TISSUE AND MUST BE AVOIDED. Injury results from reaction of the isocyanate with the eye fluid which may dehydrate the tissue and result in severe irritation of the eyelid and possible damage to the cornea (corneal opacity). Exposure to high concentrations of isocyanate vapor can lead to formation of solid crystals in the eye fluid causing mechanical irritation of the eyes hours after exposure.

TDI: eye-rbt: 100 mg SEV

INHALATION TOXICITY:
Unknown for product mixture. Inhalation of isocyanate vapors can produce severe irritation of the mucous membranes in the respiratory tract, i.e. nose, throat, and lungs. Exposure of humans to concentrations of isocyanate vapor in excess of the maximum acceptable concentration has caused illness characterized by breathlessness, chest discomfort and reduced pulmonary function. Massive exposure to high concentrations has caused, within minutes, irritation of the trachea and larynx and severe coughing spasms. Massive exposure may also lead to bronchitis, bronchial spasm, and/or pulmonary edema (chemical pneumonitis). Concentrations of isocyanate vapors should be maintained below the TLV by engineering controls. Can cause sensitization in humans.

TDI: ihl-hmn: TCLo: 0.02 ppm/2Y:PUL
ihl-hmn: TCLo: 0.5 ppm:IRR

References: N.I.O.S.H. - R.T.E.C.S., 1982.
Sax: Dangerous Properties of Industrial Materials (1984)

CHRONIC TOXICITY:

Unknown for product mixture. Toluene diisocyanate (TDI) is considered a suspect carcinogen as tested by National Toxicology Program, 1983, in rats and female mice. Administered by gavage to rats, TDI caused subcutaneous neoplasms or cancers in both sexes. Additionally, males developed pancreatic neoplasms and females, pancreatic, liver and mammary neoplasms. In mice similarly exposed, TDI caused circulatory neoplasms and cancers (combined) and liver neoplasms in females but was not carcinogenic to males. (NTP 1983 Program Tech Report on Carcinogenic Study of Commercial Grade of TDI.)

EFFECTS OF OVEREXPOSURE:

INGESTION:
Unknown for product mixture. May cause gastrointestinal irritation, nausea, drowsiness, and possibly unconsciousness.

SKIN CONTACT:
Unknown for product mixture. Repeated or prolonged contact may cause skin dryness, redness, swelling and dermatitis. Isocyanate sensitization is possible.

CONTINUATION FOR 4.02

SECTION 5: HEALTH HAZARD DATA, continued

EYE CONTACT:
Unknown for product mixture. Vapor and liquid are severe eye irritants. May produce severe eye irritation and corneal edema.

INHALATION:
Unknown for product mixture. Vapors are severe nasal and respiratory irritants. High exposure to the solvent vapors may result in headache, narcotic effect, and unconsciousness. Asthmatic-type symptoms may develop as a reaction to residual isocyanate monomers.

ACUTE SYSTEMIC EFFECTS:
May cause irritation of the eyes, nose and throat. Severe overexposure may cause weakness, drowsiness and unconsciousness.

CHRONIC SYSTEMIC EFFECTS:
Signs and symptoms from chronic exposure resemble those from acute mishaps but are in part systemically more severe. Extended exposure to isocyanate vapors may cause sensitization resulting in asthmatic symptoms.

NOTES:
Medical conditions generally recognized as being aggravated by exposure:

- Toxicity testing on the product mixture has not been conducted. Comments in SECTION V pertain only to the constituent(s) listed in SECTION II.

- Persons with pre-existing skin disorders may be more susceptible to the effects of the isocyanate.

- In persons with impaired pulmonary function, especially those with obstructive airway diseases, the breathing of isocyanate vapors might cause exacerbation of symptoms due to irritant properties. Individuals with pre-existing pulmonary problems such as asthma may also be more susceptible to the isocyanate.

SECTION 6: EMERGENCY HEALTH AND FIRST AID PROCEDURES

EYE CONTACT: May cause eye irritation and if not removed immediately can produce burns. Immediately rinse eyes with constant stream of fresh water for 15 minutes, lifting upper and lower eyelids frequently. Consult a physician immediately.

SKIN CONTACT: Remove contaminated clothing and wash exposed skin thoroughly with warm water and soap. If irritation is present after washing, get medical attention.

INHALATION: Remove exposed person to fresh air. If breathing has stopped perform artificial respiration. Keep the affected person warm and at rest. Get medical attention immediately.

INGESTION: DO NOT induce vomiting. Obtain medical attention immediately, if unavailable contact nearest Poison Control Center. Keep affected person warm and at rest.

NOTE TO PHYSICIAN: Supportive therapy is recommended. No known antidote. Careful lavage may be indicated after ingestion.

SECTION 7: REACTIVITY DATA

STABLE OR UNSTABLE:
Stable under normal conditions of usage.

CONDITIONS TO AVOID:
Storage at temperatures above 110 F and moisture contact.

INCOMPATIBLE SUBSTANCES:
Oxidizing substances.

CAN HAZARDOUS POLYMERIZATION OCCUR:
Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS AND CONDITIONS:
Carbon monoxide, carbon dioxide, oxides of nitrogen, possibly aromatic amines, aldehydes, ammonia, and small amounts of hydrogen cyanide under burning conditions.

CONTINUATION FOR
4.02

SECTION 8: SPILL AND LEAK PROCEDURES

RESPONSE TO SPILLS:
Stop discharge and contain spill or contaminated material using dike, barrier, or other means. Recover with pumping equipment, vacuum truck, sorbents or by other means. Neutralize by soaking with 5% ammonia solution or water with 10% isopropanol. Open containers should not be closed for disposal until all foaming or bubbling has stopped. Place material in suitable containers for further handling.

HAZARDS TO BE AVOIDED:
Do not flush to stream, other bodies of water or sewer unless authorized. Avoid contact with skin or clothing. Other hazards see Section Nos. IV (Fire and Explosion Data), V (Health Hazard Data), and IX (Control Measures).

SPILL NOTIFICATION:
This product contains one or more hazardous substances as listed in 40 CFR 302.4, which, if released into the environment in a quantity equal to or greater than the reportable quantity, must immediately be reported to the National Response Center (NRC), Telephone No. 1-800-424-8802. Check Federal, State and local reporting regulations.

DISPOSAL METHODS:
(a) Recycle, if feasible.
(b) Incinerate in authorized facility.
(c) Treatment at Industrial or Liquid Waste treatment facility.
(d) Landfill in authorized facility. (Solidification or fixation may be required prior to landfill disposal.)

NOTES:
THIS MATERIAL IF BEING DISCARDED DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

SECTION 9: CONTROL MEASURES

RESPIRATORY PROTECTION:
Use NIOSH/MSHA approved respiratory protection within equipment limitations. Consult OSHA 29 CFR, 1910.134, Respiratory Protection. S.C.B.A. or air line respirators may be required for protection against the isocyanate. An Industrial Hygienist should be consulted to aid in this determination and for consultation regarding respirator selection, use and training.

OTHER PROTECTIVE EQUIPMENT:

FOR HANDS AND BODY:
Chemical resistant gloves are recommended for hand protection. Work clothing for general body protection and other protective clothing as necessary to prevent repeated or prolonged skin contact.

FOR EYES:
Safety glasses, face shields (eight-inch minimum) or splash-proof chemical goggles in addition to safety glasses during pouring and dispensing or where other eye hazards exist.

OTHER:
- Use under well-ventilated conditions.
- For personal hygiene protection we recommend that employees wash thoroughly after handling product. Always wash-up before eating, drinking, smoking or using restroom facilities.
- Properly bond and ground all containers during pouring, dispensing and mixing operations to minimize the static charge buildup.

VENTILATION:
Exhaust ventilation at all vapor release points is recommended to maintain vapors below lowest TLV of substance in mixture.

SECTION 10: SPECIAL PRECAUTIONS

RECOMMENDED STORAGE PRACTICE AND CONDITIONS:
Store between 50 and 100 F in dry area. Storage at higher temperatures causes polymerization.

CONTINUATION FOR
402

SECTION 10: SPECIAL PRECAUTIONS, continued

OTHER PRECAUTIONS:
For industrial use only. Use with adequate ventilation. Avoid skin contact.
Eyewash and shower should be available.
Always wash-up after handling and before eating, drinking, smoking or using restroom facilities.

SECTION 11: LABELING INFORMATION

DOT SHIPPING NAME:	Non-Regulated
DOT LABEL:	Not Applicable
DOT IDENTIFICATION NO.:	Not Applicable
MORTON PRECAUTIONARY LABEL NO.:	L177

SECTION 12: REGULATORY INFORMATION

SARA TITLE III, SECTION 313 REQUIREMENTS:

Substances identified with an asterisk in SECTION 2 - HAZARDOUS INGREDIENTS, are toxic chemicals under Section 313. If no material is identified with an asterisk, then this product contains no substance reportable under this notification requirement.

SECTION 13: USERS RESPONSIBILITY

A BULLETIN SUCH AS THIS CANNOT BE EXPECTED TO COVER ALL POSSIBLE INDIVIDUAL SITUATIONS. AS THE USER HAS THE RESPONSIBILITY TO PROVIDE A SAFE WORKPLACE, ALL ASPECTS OF AN INDIVIDUAL OPERATION SHOULD BE EXAMINED TO DETERMINE IF, OR WHERE, PRECAUTIONS - IN ADDITION TO THOSE DESCRIBED HEREIN - ARE REQUIRED. ANY HEALTH HAZARD AND SAFETY INFORMATION CONTAINED HEREIN SHOULD BE PASSSED ON TO YOUR CUSTOMERS OR EMPLOYEES, AS THE CASE MAY BE. MORTON THIOKOL, INC. MUST RELY ON THE USER TO UTILIZE THE INFORMATION WE HAVE SUPPLIED TO DEVELOP WORK PRACTICE GUIDELINES AND EMPLOYEE INSTRUCTIONAL PROGRAMS FOR THE INDIVIDUAL OPERATION.

DISCLAIMER OF LIABILITY

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN OR THE CHEMICAL TO WHICH THE INFORMATION REFERS. It is the responsibility of the user to comply with all applicable Federal, State and local laws and regulations.

Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

INITIALS: DBW:PSF - Chicago
SKF:mes - Woodstock

CONTINUATION
FOR 4.02

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ....AFTER APPENDIX I..... (1)

No 2

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

[ ]

	Physical State				
Activity	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	(3)	4	(5)
Store	1	2	(3)	4	5
Dispose	1	2	(3)	4	(5)
Transport	1	2	3	4	5

☒ Mark (X) this box if you attach a continuation sheet.

ADDITIONAL HAZARD INFO ATTACHMENT 26

CAUTION: DO ALL WEIGHING AND MIXING IN A WELL VENTILATED AREA, AS SOLITHANE 113 RESIN CONTAINS TRACES OF MONOMERIC ISOCYANATE. ADEQUATE VENTILATION SHALL BE PROVIDED DURING HANDLING AND PROLONG BREATHING OF VAPORS AVOIDED. WHERE LARGE VOLUMES OF SOLITHANE ARE MIXED A FUME HOOD SHALL BE USED.

4.3.6 Place the mixture into a large container (approx. 5 times solithane volume) and a degas the mixture in a vacuum until the bubble formation is minimal (10mm Hg).

4.3.7 With a trimmed acid brush apply a thin coating (1-3 mils) on; the top of the battery, the terminals top and bottom, and the wires not covered by sleeving. Trimming the acid brush to approximately half its' bristle length will aid application of thin coat.

4.3.8 Carefully break all bubbles and remove all brush fibers in the coating. Inspect the conformal coat before it cures to assure there are no trapped contaminants. Precure inspect for cleanliness and adequate coating.

4.3.9 Room temperature cure the coating for 48 hours. DO NOT HEAT CURE.

CAUTION: PROTECT THE UNCURED COATING FROM CONTAMINANTS DURING CURE.

D

4.3.10 Rework- If rework is required remove the coating from the rework area (minimum of one cell top) using a plastic spatula or hot solder iron tip. Solvent clean the area with isopropyl alcohol and blow dry with nitrogen (DO NOT USE SHOP AIR) or wipe dry with a clean dry cloth. Reapply the coating per this document.

4.4 POTTING PCU 100 AMP RELAYS.

4.4.1 Secure the related relays in their relative PCU drawing positions, to a common holding board (See Figure 2A; example.)

4.4.2 Solder wires to J hooks as specified in the Engineering drawing.

4.4.3 Route the J hook wiring (including any required jumpers) as shown on the drawing, and it shall be tied into a bundle as shown in Figure 2A; example.

4.4.4 Jumpers between the related relays shall be installed while the relays are held in their relative positions.

4.4.5 Tie bundle to the side of the relay as shown in Figure 2B, to release any tension on the delicate relay J hooks.

4.4.6 Cut to size a 1.00 X 9.00 inch strip of shim stock (.005 MC097-140-81827 or an equivalent) to be used as a potting mold.

4.4.7 Place teflon tape (TV 2495 or an equivalent) on one side of the shim stock strip to prevent the potting from adhering to the mold.

4.4.8 Punch and slot two .3 inch J hook wiring exit holes as shown in Figure 2C; example.

CONTINUATION PAGE FOR 4.03

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy thi question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Process Stream ID Code	Process Stream Description	Physical State[1]	Stream Flow (kg/yr)
7A	Solithane-s-113 Reactant	OL	0.7
7B	Solithane-s-113/300 Reactant	OL	0.438
7C	Paper Cups	SO	0.140 Kg
7D	Wooden Spatula	SO	0.070 Kg
7E	Cab-O-Sil Filler	SO	0.072 Kg
7F	Fumes From Process	GC	UK
7G	Paint Brush	SO	0.7 Kg
7H and 7I	Bristle Remover Tool	SO	.140 Kg

[1]Use the following codes to designate the physical state for each process stream:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☒ Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... COATING

Process Stream ID Code	Process Stream Description	Physical State[1]	Stream Flow (kg/yr)
7J	Plastic Gloves	SO	.420 Kg/yr
7K	Finger COTS	SO	.070 Kg/yr
7L	OVEN	N/A	N/A
7M	Toluene Diisocyanate	GC	UK

[1]Use the following codes to designate the physical state for each process stream:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[ ] Mark (X) this box if you attach a continuation sheet.

Continuation Page for 7.05

Page (1)

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

[ ] Process type ..... COATING

a. Process Stream ID Code	b. Known Compounds[1]	c. Concentrations[2,3] (% or ppm)	d. Other Expected Compounds	e. Estimated Concentrations (% or ppm)
7A	Toluene Diisocyanate	6-7%	UK	93-94%
7B	RICINUS OIL	100%	UK	UK
7C	NONE	N/A	N/A	N/A

7.06 continued below

☒ Mark (X) this box if you attach a continuation sheet.

7D, 7E, and 7F are on First Continuation Page 47
7G, 7H, and 7I are on second Continuation Page
7J, 7K, 7L, and 7M are on third Continuation Page

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

[ ] Process type ..... COATING

a. Process Stream ID Code	b. Known Compounds[1]	c. Concentrations[2,3] (% or ppm)	d. Other Expected Compounds	e. Estimated Concentrations (% or ppm)
7D	NONE	N/A	N/A	N/A
7E	SILICON DIOXIDE	100%	NONE	N/A
7F	TOLUENE DIISOCYANATE	UK	HCN	UK

7.06 continued below

CONTINUATION PAGE (1) FOR 7.06

☒ Mark (X) this box if you attach a continuation sheet.

7G, 7H, and 7I are on the second continuation page
7J, 7K, 7L, and 7M are on the third continuation page

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

[ ] Process type ..... COATING

a. Process Stream ID Code	b. Known Compounds[1]	c. Concentrations[2,3] (% or ppm)	d. Other Expected Compounds	e. Estimated Concentrations (% or ppm)
7G	NONE	N/A	N/A	N/A
7H	NONE	N/A	N/A	N/A
7I	NONE	N/A	N/A	N/A

7.06 continued below

CONTINUATION PAGE (2) for 7.06

[ ] Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

[ ] Process type ..... _____

a. Process Stream ID Code	b. Known Compounds[1]	c. Concentrations[2,3] (% or ppm)	d. Other Expected Compounds	e. Estimated Concentrations (% or ppm)
7J	NONE	N/A	NONE	N/A
7K	NONE	N/A	NONE	N/A
7L	NONE	N/A	NONE	N/A
7M	TOLUENE DIISOCYANATE	UK	HCN	UK

7.06 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

CONTINUATION PAGE (3) FOR 7.06

PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... COATING

a. Stream ID Code	b. Type of Hazardous Waste[1]	c. Physical State of Residual[2]	d. Known Compounds[3]	e. Concentrations (% or ppm)[4,5,6]	f. Other Expected Compounds	g. Estimated Concentrations (% or ppm)
8A	T	OL	TOLUENE DIISOCYANATE	6-7%(UK)	UK	UK
		OL	RICINUS OIL	100% (UK)	UK	UK
		GU			HCN	UK
		SO	SILICON DIOXIDE	100%(UK)	UK	UK
8B	T	GC	TOLUENE DIISOCYANATE	UK	UK	UK
		GU			HCN	UK
8C	T	OL	TOLUENE DIISOCYANATE	6-7%(UK)	UK	UK
		OL	RICINUS OIL	100%(UK)	UK	UK
		GU			HCN	UK
		SO	SILICON DIOXIDE	100%(UK)		
8D	T	GC	TOLUENE DIISOCYANATE	6-7%(UK)	UK	UK
		GU			HCN	UK

8.05 continued below

☒ Mark (X) this box if you attach a continuation sheet.

PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... COATING

a. Stream ID Code	b. Type of Hazardous Waste[1]	c. Physical State of Residual[2]	d. Known Compounds[3]	e. Concentrations (% or ppm)[4,5,6]	f. Other Expected Compounds	g. Estimated Concentrations (% or ppm)
8E	T	GC	TOLUENE DIISOCYANATE	6-7% (UNK)	UK	UK
		GU			HCN	UK

8.05 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

CONTINUATION PAGE (1) FOR 8.05

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... Coating

a. Stream ID Code	b. Waste Description Code[1]	c. Management Method Code[2]	d. Residual Quantities (kg/yr)	e. Management of Residual (%) On-Site	e. Management of Residual (%) Off-Site	f. Costs for Off-Site Management (per kg)	g. Changes in Management Methods
8A	A10	10I	0.007	100			1D (1/90
8B	B69	M5(a)	UK	100		N/A	
8C	B69	1D	.207		100.00	$0.34/kg	
8D	B69	M5(c) VENT TO REMOTE ROOM	UK	100		N/A	

[1] Use the codes provided in Exhibit 8-1 to designate the waste descriptions

[2] Use the codes provided in Exhibit 8-2 to designate the management methods

☒ Mark (X) this box if you attach a continuation sheet.

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... COATING

a. Stream ID Code	b. Waste Description Code[1]	c. Management Method Code[2]	d. Residual Quantities (kg/yr)	e. Management of Residual (%) On-Site	e. Management of Residual (%) Off-Site	f. Costs for Off-Site Management (per kg)	g. Changes in Management Methods
8E	B69	M5a	UK	100%	N/A	N/A	N/A

[1]Use the codes provided in Exhibit 8-1 to designate the waste descriptions

[2]Use the codes provided in Exhibit 8-2 to designate the management methods

[ ] Mark (X) this box if you attach a continuation sheet.

CONTINUATION PAGE ① FOR 8.06